

# The Saskatchewan Legacy

*Conserving Saskatchewan's Critical Waterfowl Habitat*

Reporting Period:

April 2010 to March 2012

Submitted by Ducks Unlimited Canada and Ducks Unlimited Inc.

April 2012



**Ducks Unlimited Canada**  
Conserving Canada's Wetlands



**DUCKS UNLIMITED**



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## OVERVIEW



Ducks Unlimited (DU) is the world leader in wetland conservation. Since 1938, DU has invested over one billion dollars in waterfowl and wildlife habitat conservation in the United States, Canada and Mexico. In Canada alone, DU has completed over 8,880 habitat projects, securing 6.2 million acres and positively influencing over 95 million acres of habitat that benefit waterfowl, wildlife and people. Besides waterfowl, numerous species of wildlife, including many threatened or endangered species, live and flourish on DU projects.

The Louisiana Department of Wildlife and Fisheries (LDWF) have contributed to waterfowl conservation on the Canadian Prairies since 1964. This partnership with DU recognizes the importance of Canadian waterfowl production to the Louisiana hunter. Over the past 47 years, LDWF has contributed in excess of \$9.8M to this effort.



Ducks Unlimited Canada (DUC) is a proud partner of the North American Waterfowl Management Plan (NAWMP). The Prairie Habitat Joint Venture (PHJV), a partnership led by federal and provincial governments, DUC, Nature Conservancy of Canada and Wildlife Habitat Canada, has collaborated on waterfowl conservation under NAWMP in Prairie Canada since 1986. DUC leads the delivery of conservation programs and science to support NAWMP goals on the Canadian Prairies. The success of DUC's programs in Saskatchewan, particularly in the prairie pothole-laden target areas, will be critical to support the NAWMP goal of achieving sustainable waterfowl production at the 1970s level. The PHJV goal is to protect, restore and enhance an additional 15 million acres over the next 25 years.

DUC uses the best scientific research available to direct, evaluate and modify DUC's conservation programs and practices so that DUC can most effectively meet the conservation needs of waterfowl in the Prairie Pothole Region (PPR). This union of science and conservation sets DUC apart from other non-government conservation organizations in Canada.

In June 2010, Ducks Unlimited presented a funding proposal to the LDWF in response to the critical waterfowl needs of the PPR of Saskatchewan. The LDWF agreed to provide funding in FY 11 and 12. LDWF provided \$318,705 in FY 11 and \$325,081 in FY 12 to Ducks Unlimited in keeping with state legislation to support habitat conservation on the breeding grounds of waterfowl that winter in Louisiana. This final report is for the two year term of the contract that identified LDWF funding would be matched by DU and this combined total matched by the North America Wetlands Conservation Act (NAWCA), and other partners to realize \$3,218,930 in support of conservation efforts in the priority areas and surrounding prairies and parklands of Saskatchewan. This funding will contribute significantly to the goals of the Prairie Habitat Joint Venture, however still falls short of enabling DUC and our partners to fully deliver on the science-based needs for the Saskatchewan PPR.

This report highlights DUC's habitat accomplishments within Saskatchewan (Missouri Coteau, Thickwood Hills, Allan/Dana Hills, Touchwood Hills, Upper Assiniboine, and Lightning Creek priority areas and surrounding Saskatchewan PPR) during the period of April 1, 2010 to March 31, 2012.

## CONSERVING THE SASKATCHEWAN LANDSCAPE

### Saskatchewan Priority Areas

The highest densities of breeding ducks in North America occur in the Prairie Pothole Region (PPR) of Canada. Located within the PPR are the Prairie and Aspen Parkland Eco-regions of Saskatchewan, which are composed of a diversity of wetland and upland habitats. These habitat characteristics make this area key to waterfowl production and provide a basis to strategically deliver conservation programs. Supported by band return information, the delivery area of focus for Louisiana funding falls within the PPR of Saskatchewan and focused on the Missouri Coteau, Thickwood Hills, Allan/Dana Hills, Touchwood Hills, Upper Assiniboine and Lightning Creek priority areas (Figure 1).

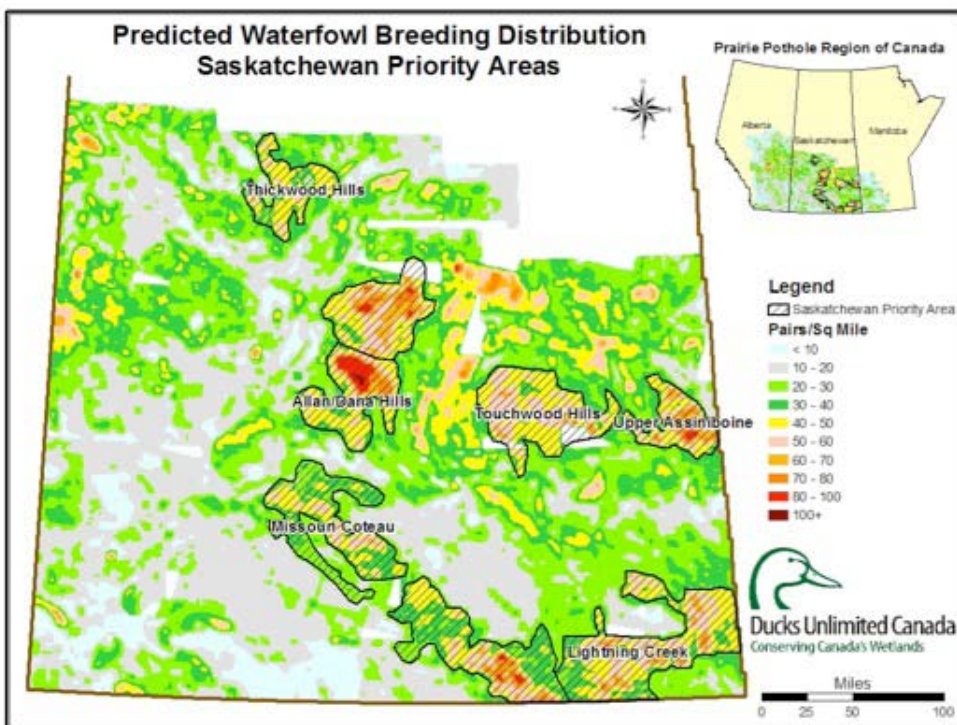
Based on the U.S. Fish and Wildlife Service survey data, the Saskatchewan PPR and the priority areas in particular stand out as the 'best of the best' breeding habitat in North America. However, the values of these habitats have been degraded.

### Habitat and Funding Needs

The Saskatchewan PPR as part of the PHJV program delivery area holds the highest wetland densities and thus supports the highest waterfowl densities in North America. If the NAWMP is to be successful, waterfowl conservation must be successful in the PHJV and the province of Saskatchewan. Currently under average wetland conditions the PHJV attracts 3.5 M breeding ducks (5 species), a decline of nearly 700,000 ducks over the last 30 years as a result of continued habitat loss and degradation. The current habitat objectives for Saskatchewan are to restore 6 M acres of lost wetland and upland habitats and protect 2.5 M acres of existing critical waterfowl habitat. The total cost of this work is estimated at \$525 M or \$21 M per year over the next 25 years. Current funding levels for habitat conservation in Saskatchewan are \$10 M per year and declining, which is only 48% of the funding needs to meet the goals of the PHJV and the NAWMP. Increased financial support is critical to our success.

### DUC'S SCIENCE SUPPORTS LDWF INVESTMENT

Ducks Unlimited Canada has led the last 20 years of research in the Canadian PPR investigating waterfowl breeding success as related to habitat conditions on the prairies. This research has included nest searching over 350,000 acres of habitat, radio tracked 3920 mallard hens and located and determined nest fate on over 10,000 nests. This data has greatly increased our understanding of nesting duck habitat selection and success. This data supports DUC to develop strategic waterfowl habitat recovery plans that are implemented and evaluated using a Waterfowl Productivity Model which relates duck production to habitat condition.



Based on the Waterfowl Productivity Model, DUC has defined waterfowl needs for all landscapes in the Canadian Prairies and specifically, habitat actions needed to restore duck populations within the critical Saskatchewan landscapes. These needs are represented in the habitat objectives set out in the PHJV Implementation Plan. Our 2011 - 13 Saskatchewan Legacy proposal defined a partnership opportunity for LDWF to support conservation in these landscapes to sustain waterfowl populations that are vital to the Louisiana hunter.

**Figure 1. Breeding duck density and distribution within the PPR of Saskatchewan. Yellow and red areas represent the highest duck densities in the province. This map is based on over 50 years of U.S. Fish and Wildlife Service survey data and represents average waterfowl distribution over the long term.**



### LOUISIANA'S DUCKS NEED SASKATCHEWAN

Historical waterfowl band recovery data has established a clear link between waterfowl produced and banded in Saskatchewan and recovered in the Mississippi Flyway. This data further supports that Saskatchewan and the priority areas in particular, stand out as the primary source of ducks harvested in Louisiana (Figure 2).



Figure 2. Origin of ducks harvested in Louisiana from 1986-2005 Note that this data is not corrected for banding effort.

## PROGRAM ACCOMPLISHMENTS

Based upon DUC's waterfowl science and assessment of the effectiveness of our conservation programs, DUC has adapted a suite of conservation initiatives to maximize waterfowl benefits. In the 2011-13 Saskatchewan Legacy Conservation Plan, DUC delivered against specific objectives for these habitat initiatives in Saskatchewan. *See Table 2 for specific accomplishments.*

### HOW YOUR INVESTMENT WAS USED

#### Habitat Retention

Drainage of wetlands and breaking of native uplands continues to be the most significant activities negatively impacting waterfowl. DUC uses a variety of program tools to protect these remaining critical habitats, which are vital to the long-term productivity of the Saskatchewan landscape.

- 1 **Conservation Easements and Agreements** protect habitats on private lands through programs offering financial incentives for varying levels of protection. All CE's are perpetual, most of which were in partnership with provincial and federal government agencies. Conservation agreements are all a minimum of 10 years and many were secured for less than a \$25 per acre investment by DU.
- 2 **Land purchase program** is the most intensive program that DU delivers and is a very important tool to protect high risk, high valued habitats. The cost of purchasing land continues to rise so DU invests strategically to ensure the greatest waterfowl benefits are derived. DU has a 10 year allowance to purchase up to 100,000 acres of conservation habitat in Saskatchewan.
- 3 **Rangeland stewardship programs** are designed to positively impact the majority of existing grasslands in the priority areas under the control of private ranches. To protect these lands from loss, unique partnerships with ranchers were employed. Conservation agreements addressing the protection of existing native prairie habitats while offering incentives for environmentally sound improvements were a main focus.
- 4 **Wetland Rebuilds** is a re-investment into existing wetland projects that have been evaluated as highly productive and successful for waterfowl. These projects have met and surpassed their original design and agreement terms and required new infrastructure and agreements to ensure their productive capacity for another 30 years. DU will resign all of the landowners on the project and construct the required physical improvements to maximize wetland productivity and waterfowl recruitment.

#### Wetland Restoration

Most wetland restoration work has to occur on private lands. More than 70 years of program delivery has taught us that it takes a combination of intensive and extensive programs to successfully work with producers. DUC is currently using other programs such as land purchase to initiate efforts to restore wetlands. Goals for wetland restoration were small this year due to reduced opportunity as a result of extremely wet landscape conditions. However, DUC will continue to pursue wetland restoration opportunities that come available during the next year.

#### Upland Restoration

Duck nest success is a major influential factor for continental waterfowl populations. Improving nest success in the priority areas and surrounding PPR will require the restoration of grass to provide secure nesting habitat. DUC focused significant efforts on restoring perennial cover in the priority areas through two primary efforts:

- 1 **Forage conversion** programs provided incentives to landowners to convert cultivated land to perennial cover to provide waterfowl nesting benefits and support the beef industry. For the waterfowl the increase in forage provides more nesting choices with better protection from predators.
- 2 **Winter wheat** programs focused on the agronomic and economic benefits of the crop to the producer. Approaches vary from supporting research to developing new varieties that are more successful in the Canadian prairies, to working more directly with the producers through incentive or extension programs. DUC's research has confirmed that there are 24 times more ducks hatched in winter wheat compared to spring wheat on a per acre basis because both nest success and density increase. This is particularly beneficial to northern pintails, a species that has experienced steady declines since the late 1970s. Historically, northern pintails have been an important species to Louisiana waterfowlers.

#### Habitat Asset Management

The delivery of conservation programs has been successful over the past 75 years of DU's existence. This is a substantial investment by DU and many other partners to place a valuable network of habitat projects across Saskatchewan and the rest of the breeding grounds. In order to ensure these projects return the maximum benefit to waterfowl an annual investment of resources is required. Our Habitat Asset Management efforts this year have ensured the continued productivity of over 209,330 acres of waterfowl habitat across Saskatchewan.



## FUNDING & ACCOMPLISHMENTS



The Louisiana Department of Wildlife and Fisheries FY 2012 contribution was \$325,081 toward the priority areas in the Saskatchewan PPR. LDWF's contribution was matched by Ducks Unlimited and the combined amount was matched with NAWCA funds totaling \$1,300,324. Additional funds of \$325,081 were leveraged from other contributors totaling just over \$1.6 million for habitat programs.

**Table 1. Funding Received and expended for FY 11 and 12.**

Partners	Grant Received (Year 1)	Grant Received (Year 2)	Total Contribution
LDWF	\$318,705	\$325,081	\$643,786
DU	\$318,705	\$325,081	\$643,786
NAWCA	\$637,410	\$650,162	\$637,410
<b>Sub-Total</b>	<b>\$1,274,820</b>	<b>\$1,300,324</b>	<b>\$2,575,144</b>
Other Contributions	\$318,705	\$325,081	\$643,786
<b>Total</b>	<b>\$1,593,525</b>	<b>\$1,625,405</b>	<b>*\$3,218,930</b>

\*Ducks Unlimited will match LDWF's contribution, and then this combined total is matched with federal funds under the North American Wetlands Conservation Act. A Canadian partner commitment of an additional 25 per cent from DUC, Canadian Federal and Provincial governments and other non-governmental organizations is applied as per the NAWMP.

**Table 2. Saskatchewan Legacy Program Goals, Accomplishments and Costs based on funding received**

Conservation Programs	2-year Program Goals (acres)	2-Year Accomplishments (acres)	2-Year Program Costs (\$)
1. Habitat Retention	15,510	18,985	\$1,906,595
2. Wetland Restoration	67	42	\$98,853
3. Upland Restoration	12,000	24,937	\$568,100
4. *Habitat Asset Management	104,000	320,506	\$645,382
<b>Totals</b>	<b>27,577</b>	<b>43,964</b>	<b>\$3,218,930</b>

\* Habitat Asset Management acres are not incremental and are therefore not included in the total acre goals.

## SECURING THE LEGACY

The PHJV Implementation Plan and Ducks Unlimited have set habitat objectives to fully recover the Canadian Prairies and to sustain waterfowl production equivalent to the levels of the 1970s. Continued partnerships will be the key to success. DUC values its relationship with LDWF and recognizes them as a key player in supporting NAWMP conservation efforts in Canada. However, we will need increased support from all partners if the ambitious goals of NAWMP are to be met.

The waterfowl community continues to recognize habitat programs as the primary solution to waterfowl recovery. Ducks Unlimited Canada is the primary delivery agent of the NAWMP program in the PPR of Canada.

Continued action on the Canadian Prairies means that critical waterfowl habitat will be protected in the top waterfowl production area of North America. Your critical support is needed now as every year the cost of habitat conservation rises making it more difficult to achieve the goals of the NAWMP.





**Table 3. Saskatchewan PPR Priority Area Accomplishments FY 2012**

Conservation Initiatives/Programs	Direct Programs (Acres) <sup>1</sup>	Extension Programs (Acres) <sup>2</sup>	FY12 Total (Acres)	FY12 Costs (\$'s)
<b>Habitat Retention</b>				
Conservation Easements	686	-	686	\$144,180
Land Purchase	1,040	-	1,040	\$515,865
Rangeland Stewardship	5,676	49,799	55,475	\$29,960
Lease / Conservation Agmt	1,694	-	1,694	\$105,350
<b>Sub-total</b>	<b>9,096</b>	<b>49,799</b>	<b>58,895</b>	<b>\$795,355</b>
<b>Wetland Restoration</b>	<b>35</b>	<b>-</b>	<b>35</b>	<b>\$72,320</b>
<b>Upland Restoration</b>				
Conservation Forages	4,055	-	4,055	\$113,570
Winter Wheat	9,443	118,629	128,072	\$196,838
Planted Cover Establishment <sup>3</sup>	-	-		\$40,969
<b>Sub-total</b>	<b>13,498</b>	<b>118,629</b>	<b>132,127</b>	<b>\$351,377</b>
<b>Total Acres</b>	<b>22,629</b>	<b>168,428</b>	<b>191,057</b>	
<b>Habitat Management<sup>4</sup></b>			<b>209,330</b>	<b>406,353</b>
<b>Total Expenditure FY12</b>				<b>\$1,625,405</b>

<sup>1</sup> Direct programs – Programs whereby DUC directly impacts actions of producers, improves, or protects habitat.

<sup>2</sup> Extension programs – are programs whereby DUC extends technical advice mutually beneficial to both producers and to waterfowl habitat.

<sup>3</sup> Planted Cover - The acres in this category were previously secured and are not included in the total of habitat accomplishments.

<sup>4</sup> Habitat Management - These acres include the existing projects requiring annual management to maintain healthy habitats. The acres in this category are not included in the total of habitat accomplishments.

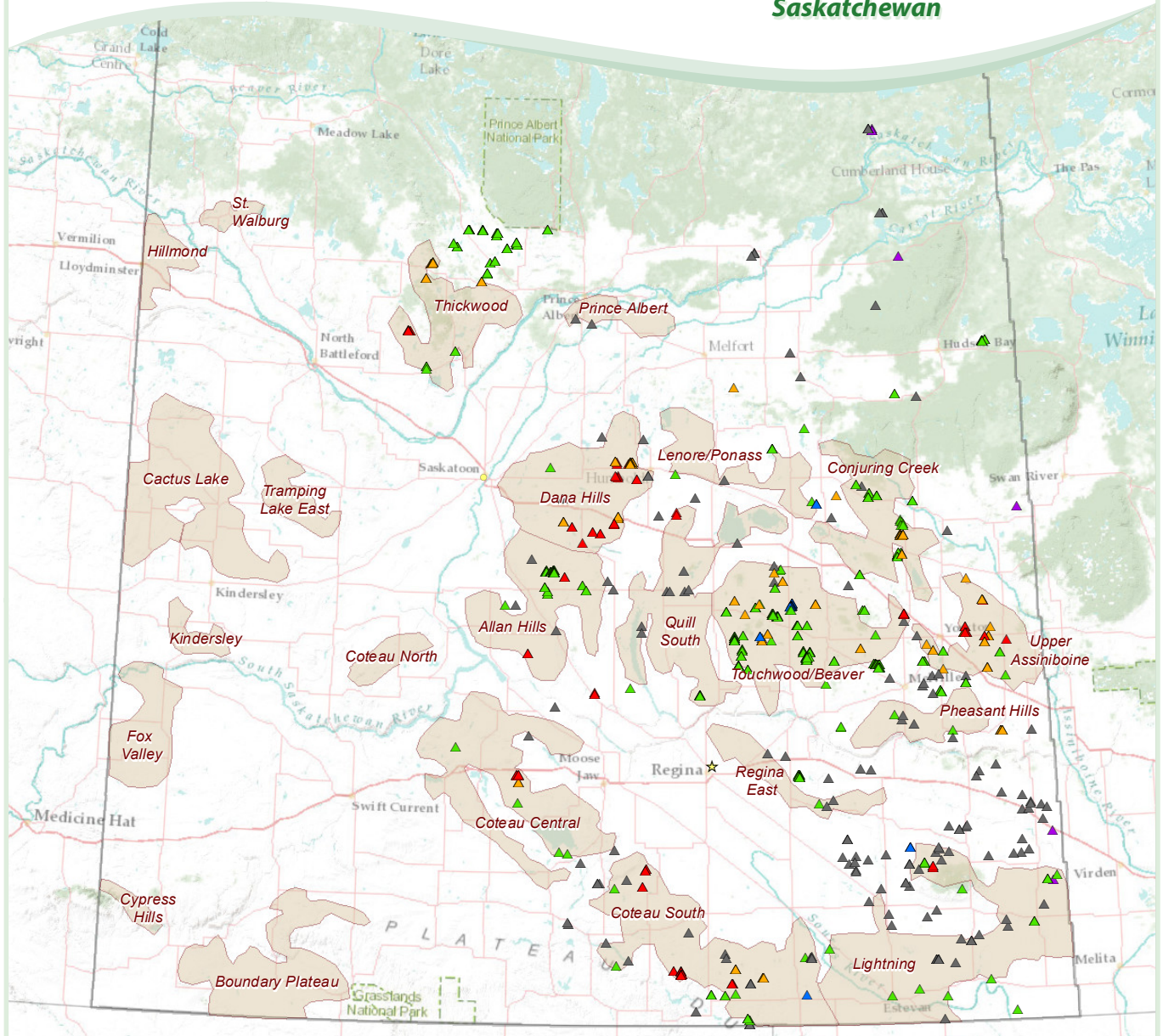




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## Ducks Unlimited Canada

### Segments Secured in FY 2012 Saskatchewan



#### Securement Method

Yellow Triangle: Purchase

Red Triangle: Paid CE

Purple Triangle: Conservation Agreement

Blue Triangle: Lease

Green Triangle: Management Agreement

Grey Triangle: Other Programs

Brown Shaded Area: DUC Priority Areas



0 25 50 100 150  
Kilometers  
NAD83 UTM Zone 13N

Sources:  
SRTM Shaded Relief Imagery, Environmental Systems Research Institute (2005);  
World Topographic Map, Environmental Systems Research Institute (2011);  
DUC Saskatchewan Priority Areas, Ducks Unlimited Canada (2012);  
DUC Segment Inventory, Ducks Unlimited Canada (2012).

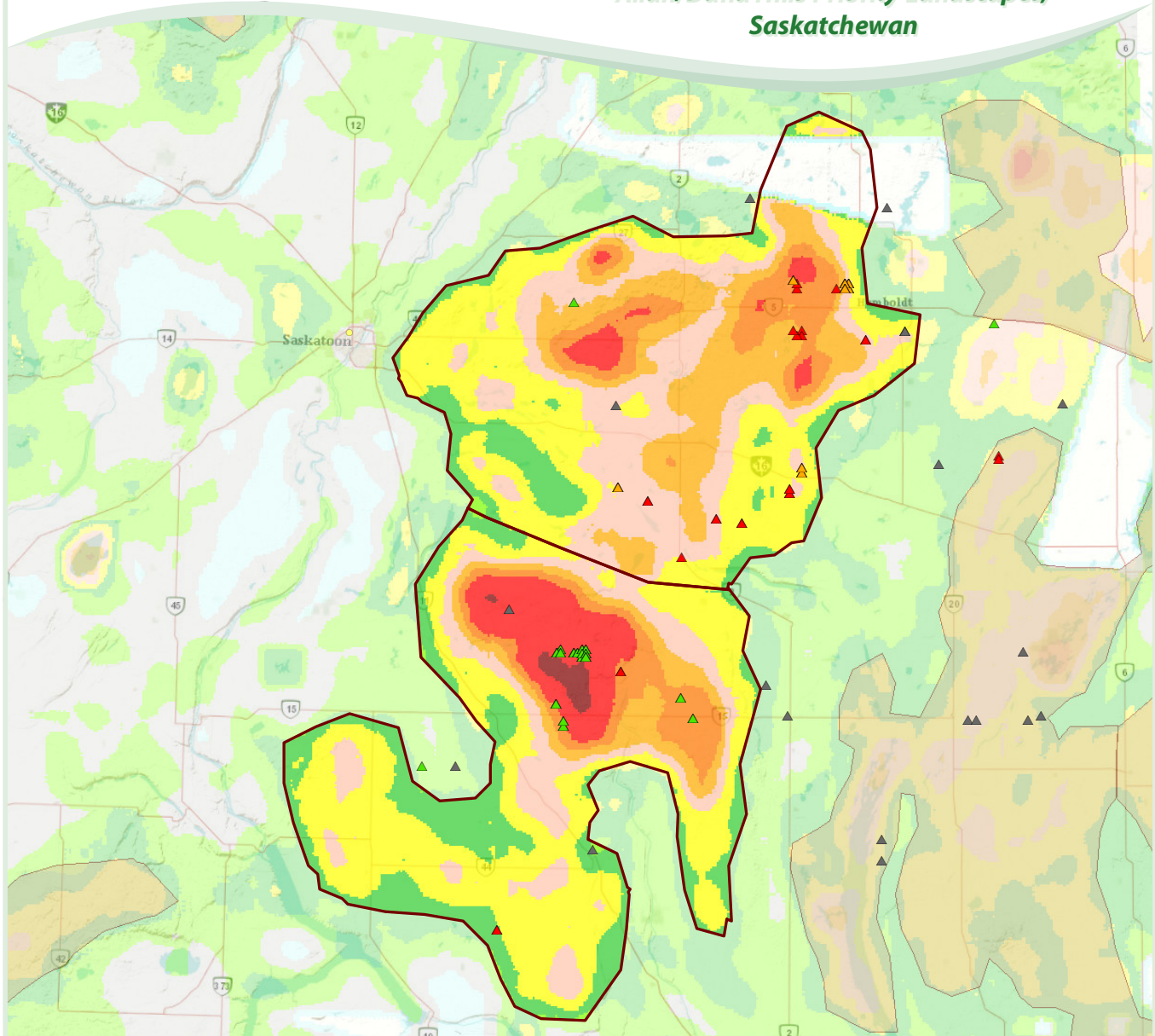




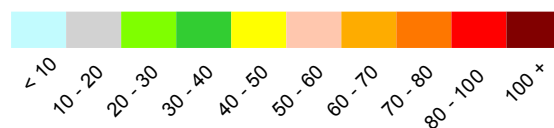
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## Ducks Unlimited Canada

*Segments Secured in FY 2012*  
*Allan/Dana Hills Priority Landscapes,*  
*Saskatchewan*

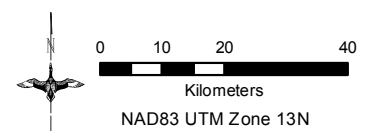


**Predicted Breeding Pairs (per sq. mile)**



**Securement Method**

- |                          |                        |
|--------------------------|------------------------|
| ▲ Purchase               | ▲ Lease                |
| ▲ Paid CE                | ▲ Management Agreement |
| ▲ Conservation Agreement | ▲ Other Programs       |



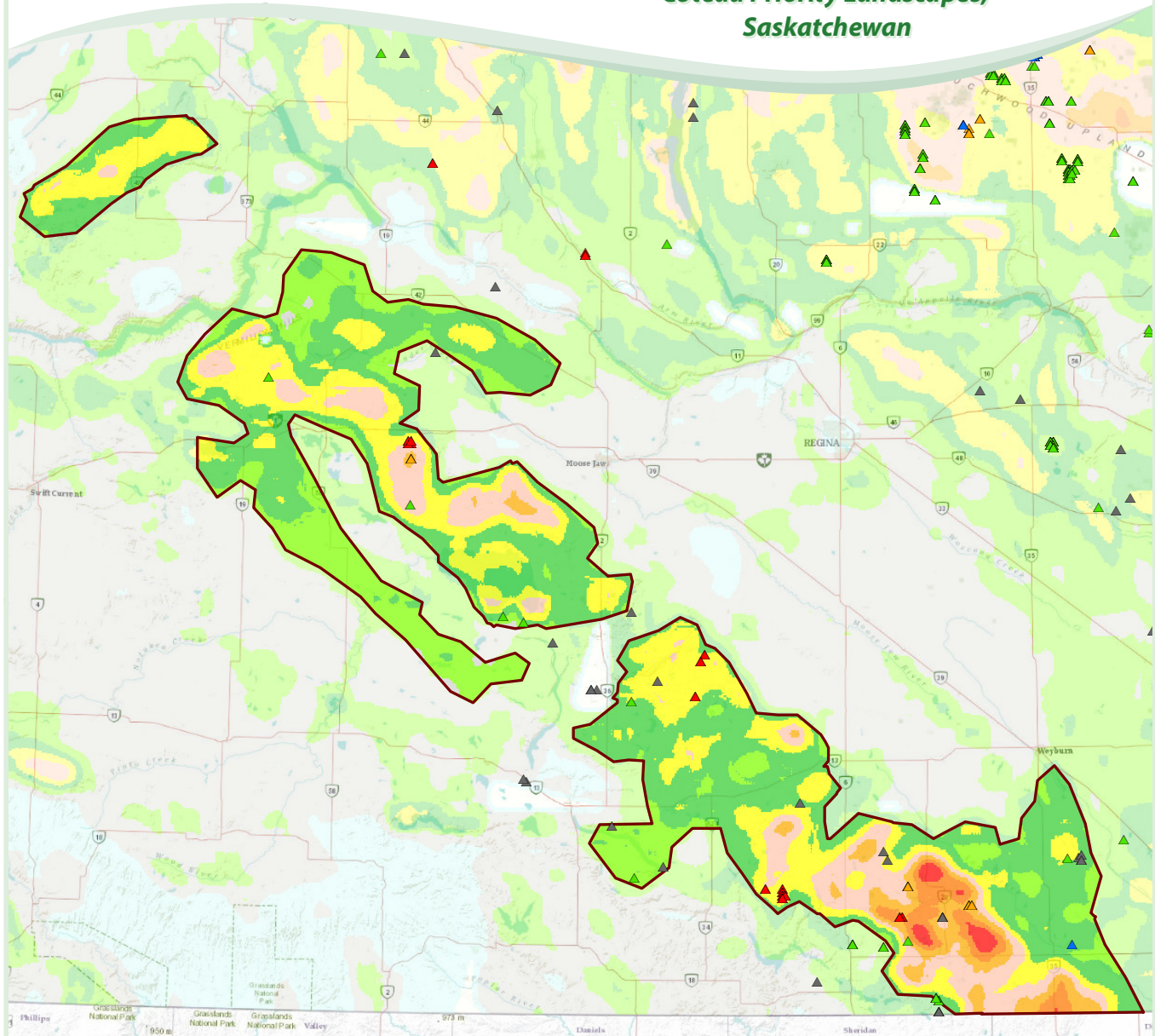
**Sources:**  
SRTM Shaded Relief Imagery, Environmental Systems Research Institute (2005);  
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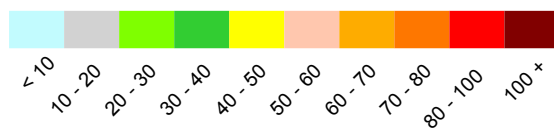
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## Ducks Unlimited Canada

**Segments Secured in FY 2012**  
**Coteau Priority Landscapes,**  
**Saskatchewan**



**Predicted Breeding Pairs (per sq. mile)**



**Securement Method**

- |                          |                        |
|--------------------------|------------------------|
| ▲ Purchase               | ▲ Lease                |
| ▲ Paid CE                | ▲ Management Agreement |
| ▲ Conservation Agreement | ▲ Other Programs       |



0 12.5 25 50  
Kilometers  
NAD83 UTM Zone 13N

**Sources:**  
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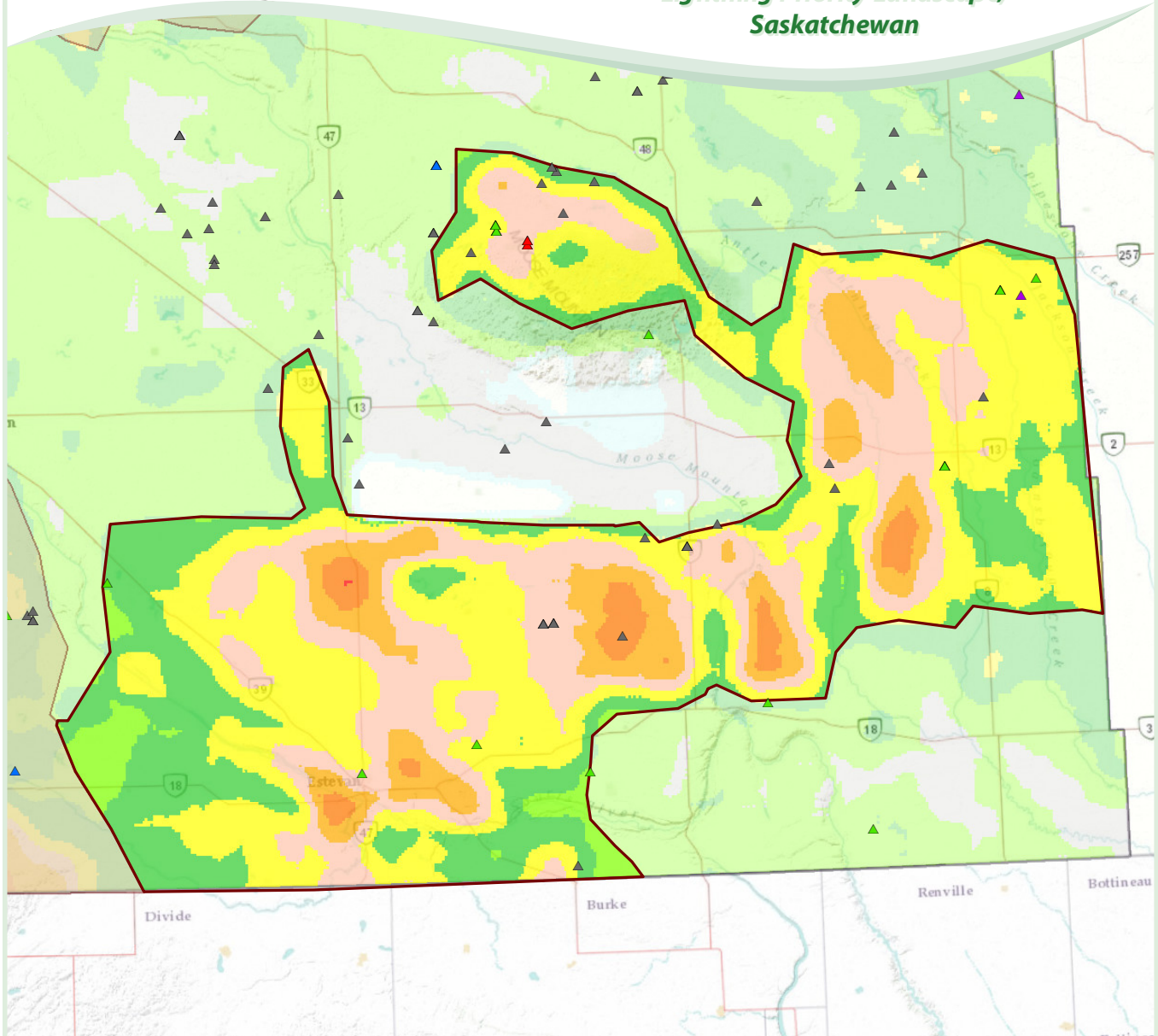




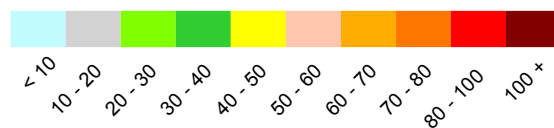
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## Ducks Unlimited Canada

*Segments Secured in FY 2012*  
**Lightning Priority Landscape,  
Saskatchewan**

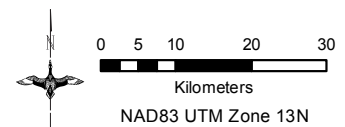


**Predicted Breeding Pairs (per sq. mile)**



**Securement Method**

- |   |                                      |
|---|--------------------------------------|
| Orange triangle: Purchase               | Blue triangle: Lease                 |
| Red triangle: Paid CE                   | Green triangle: Management Agreement |
| Purple triangle: Conservation Agreement | Grey triangle: Other Programs        |



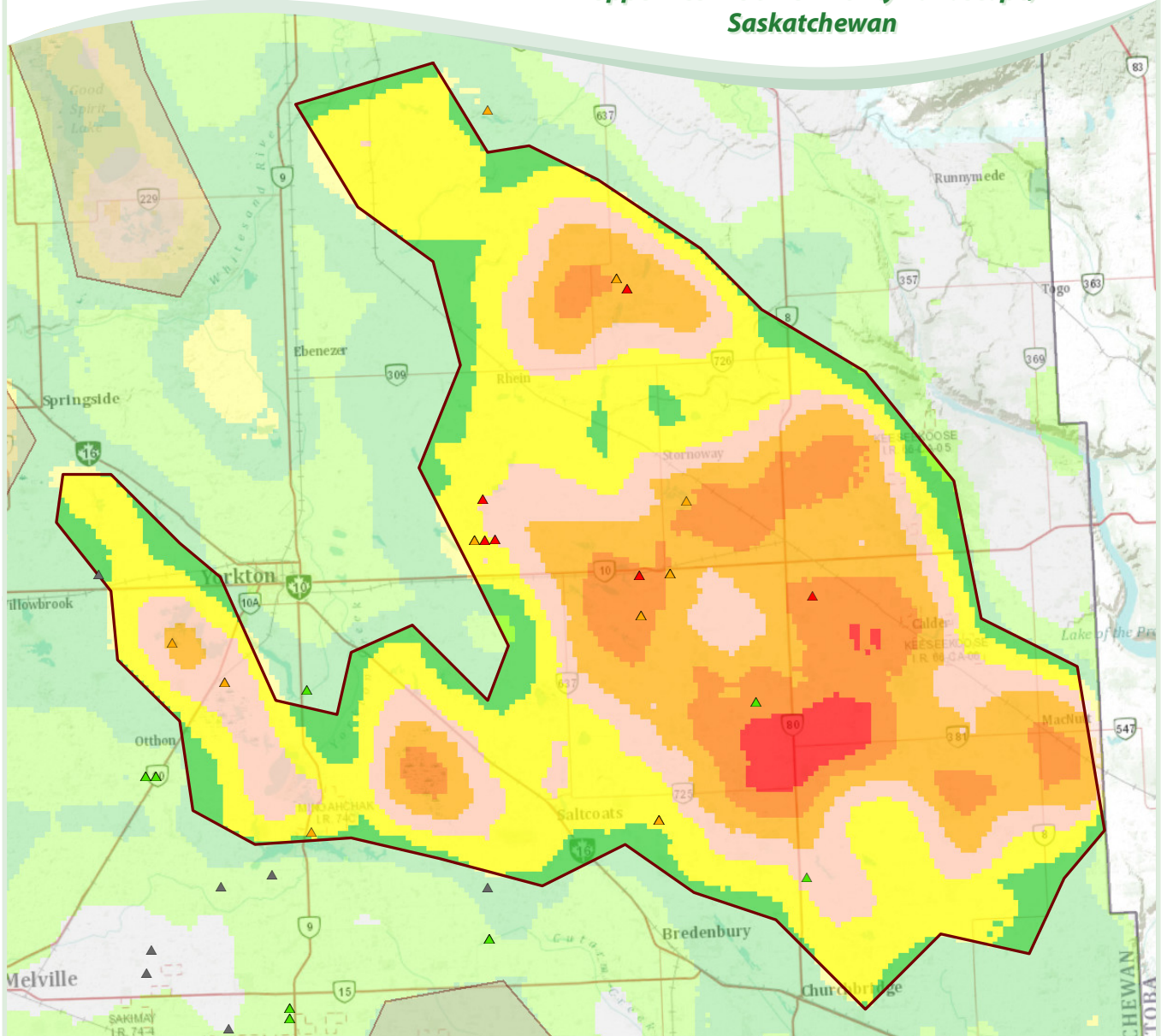
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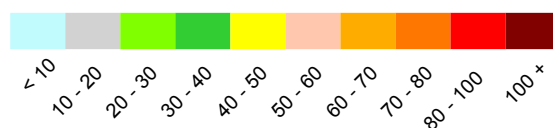
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## Ducks Unlimited Canada

*Segments Secured in FY 2012*  
*Upper Assiniboine Priority Landscape,*  
*Saskatchewan*

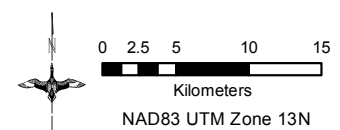


**Predicted Breeding Pairs (per sq. mile)**



**Securement Method**

- |                          |                        |
|--------------------------|------------------------|
| ▲ Purchase               | ▲ Lease                |
| ▲ Paid CE                | ▲ Management Agreement |
| ▲ Conservation Agreement | ▲ Other Programs       |



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